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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,097	04/08/2004	Alexander Lifson	03-603	8988
34704	7590	06/01/2006	EXAMINER	
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			JIANG, CHEN WEN	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/821,097	LIFSON, ALEXANDER	
	<b>Examiner</b>	<b>Art Unit</b>	
	Chen-Wen Jiang	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 4,5 and 8-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,7 and 12-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species:

Species I: Fig.2

Species II: Fig.3

Species III: Fig.4

Species IV: Fig.5

Species V: Fig.6

The species are independent or distinct because the species are independent or distinct because Species I-V are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product, and the species are patentably distinct (MPEP § 806.05(j)). In the instant case, the intermediate product is deemed to be useful as two separated refrigeration circuits and the inventions are deemed patentably distinct because there is nothing on this record to show them to be obvious variants unless applicant claims these species are obvious variants.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1,6 and 15 are considered generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable

thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

2. During a telephone conversation with William Slate on 5/15/2006 a provisional election was made with traverse to prosecute the invention of Species I, Fig.2, claims 1,2,3,6,7,15 and 16. Affirmation of this election must be made by applicant in replying to this Office action. The traverse is based on Figs.2-4 should be grouped in one group since the search can be done in the same searchable areas and claims 9,10,12-14,17 and 18 should be rejoined in the office action. Examiner agrees with Figs.2-4 can be group together. However, claims 9 and 10 dependent on claim 8, which is not elected. Therefore, claims 4,5 and 8-11 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### *Specification*

3. The disclosure is objected to because of the following informalities:

Claim 5 should be dependent on claim 1 (Applicant indicated during restriction/election).

Claim 6: The 2<sup>nd</sup> “a third surface” probably should be “a fourth surface”.

Appropriate correction is required.

4. The following rejections are based on the best understanding of the claimed limitations.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1,2,6,12 and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Shaw (U.S. Patent Number 6,217,304).

Shaw discloses a multi-rotor helical-screw compressor. Referring to Figs.4 and 6, the compressor comprises a male rotor 42, female rotors 44,46, induction housing portion 100 and discharge housing portion 104. The male rotor 42 interfaces and interacts with female rotors 44 and 46 to form closed rotating working chambers to compress a fluid, the working chambers reducing in volume as the rotors rotate to compress the working fluid. In regard to the pressure or interaction at suction and discharge ends, there is no weight in the apparatus claims since the structure configuration does not have any connection to the inlet and outlets.

7. Claims 1-3,6,7 and 12-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nilsson (U.S. Patent Number 2,481,527) in view of Shaw (U.S. Patent Number 5,911,743).

Nilsson discloses a multiple helical rotor compressor. Referring to Figs.1-4, the compressor comprises primary rotor 10 and two secondary rotors 14,16. The primary rotor and the secondary rotor 14, on the one hand, and the primary rotor 10 and the secondary rotor 18, on the other hand, each have their inlet and outlet 34,36 and 38,40, respectively. The using of this kind of compressor in the refrigeration circuit is disclosed in Shaw. In regard to claims 1,2,6,15,

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Nilsson discloses two independent passes in the compressor. One is between the lobes of the rotors 10 and 16 and the other is between the lobes of the rotors 10 and 14.

In regard to claim 3, Shaw discloses the refrigeration circuit comprising condenser, expansion device and evaporator.

In regard to claims 7,12-14 and 16-18, Nilsson discloses the compressor may be used where compression to two different final pressures is desirable. Also, Nilsson discloses the two inlets 34,38 and/or the two outlets 36,40 may be connected with each other, so that the compressor will have a common inlet conduit and outlet conduit, respectively. Therefore, it covers the Figs.2-4 of Applicant's disclosure.

### ***Double Patenting***

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1,2,6,12 and 14-18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3 and 8-10 of U.S. Patent No. Daniels et al.

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(U.S. Patent Number 6,976,833). Although the conflicting claims are not identical, they are not patentably distinct from each other because '833 claims a first rotor, a second rotor, a third rotor and separated chambers. In regard to the pressure or interaction at suction and discharge ends, there is no weight in the apparatus claims since the structure configuration does not have any connection to the inlet and outlets.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809.

The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen-Wen Jiang  
Primary Examiner

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke, positioned to the right of the printed name.